

Name:

Date:

## A2CC: More Practice with Locus Definition of a Parabola

1. Determine the equation of the parabola whose focus is the point  $(-2, 5)$  and whose directrix is the horizontal line  $y = 3$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

2. Determine the equation of the parabola whose focus is the point  $(0, 8)$  and whose directrix is the horizontal line  $y = -2$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

3. Determine the equation of the parabola whose focus is the point  $(1, 2)$  and whose directrix is the horizontal line  $y = -1$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.
4. Determine the equation of the parabola whose focus is the point  $(7, 2)$  and whose directrix is the horizontal line  $y = -2$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

5. Determine the equation of the parabola whose focus is the point  $(0, 5)$  and whose directrix is the horizontal line  $y = -7$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

6. Determine the equation of the parabola whose focus is the point  $(2, 4)$  and whose directrix is the horizontal line  $y = -4$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

7. Determine the equation of the parabola whose focus is the point  $(5, -2)$  and whose directrix is the horizontal line  $y = -5$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

8. Determine the equation of the parabola whose focus is the point  $(2, 5)$  and whose directrix is the horizontal line  $y = 3$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

***CHALLENGE***

9. Determine the equation of the parabola whose **VERTEX** is the point  $(5, -2)$  and whose directrix is the horizontal line  $y = -5$ . First, draw a diagram that shows the parabola, then carefully use the distance formula to derive its equation.

